



September 12, 2012

Brad Davis  
Zia Engineering & Environmental  
755 S Telshor Blvd Ste F-201  
Las Cruces, NM 88011  
TEL: (575) 993-6824  
FAX (575) 532-1587  
RE: HELSTF Chromium Spill

Order No.: 1208269

Dear Brad Davis:

DHL Analytical received 5 sample(s) on 8/30/2012 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 4.2 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in blue ink that reads "John DuPont" followed by "for".

John DuPont  
General Manager

This report was performed under the accreditation of the State of Texas & DoD Laboratory  
Certification Number: T104704211-12-8 & DoD ELAP #ADE-1416 v2



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766 S. Tel Blvd. Ste. F-201  
Las Cruces, NM 88011  
575-532-1526 u  
575-532-1581 f

#1208269

### CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.	PROJECT NAME		NO. OF CONTAINERS	ANALYSIS REQUESTED						REMARKS	
				TOC	VOC's	DRC	Hexavalent Chromium	Total Chromium	pH		
	SAMPLER'S SIGNATURE	<i>Bradley T. Davis</i>									
01	DATE	TIME	SAMPLE ID	MATRIX	LAB NO.						
01	8-29-12	1120	HLSF-0143-HMW-011-0812	water		10	X X X X X X X X				
02	8-29-12	1120	HLSF-0143-HMW-011-0812-TB	water		2	X				TRIP BLANK
03	8-29-12	1245	HLSF-0143-HMW-043-0812	water		10	X X X X X X X X				
04	8-29-12	1245	HLSF-0143-HMW-143-0812	water		10	X X X X X X X X				
05	8-29-12	1420	HLSF-0143-HMW-041-0812	water		10	X X X X X X X X				
PROJECT INFORMATION		SAMPLES RECEIVED	✓	1. RELINQUISHED BY: (SIG NATURE)	2. RELINQUISHED BY: (SIG NATURE)			3. RECEIVED BY LAB: (SIG NATURE)			
PROJECT MANAGER		TOTAL NO. OF CONTAINERS	✓	(PRINTED NAME) <i>Bradley T. Davis</i>	(PRINTED NAME) <i>FED EX</i>			(PRINTED NAME) <i>Aluhaneck</i>			
SHIPPING ID NO.		CHAIN OF CUSTODY SEALS	✓	RECEIVED BY: (SIG NATURE) <i>Fed EX</i>	RECEIVED BY: (SIG NATURE) <i>FED EX</i>			RECEIVED BY: (COMPANY) <i>DHL Analytical, Inc</i>			
798850302265		GOOD CONDITION/CHILLED	✓	(TIME/ DATE) <i>8/29/2012</i>	(TIME/ DATE) <i>8/30/2012 09:30</i>			(TIME/ DATE) <i>8/30/2012 09:30</i>			
Fed EX		CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS: <i>Received temp +5.4°C Therm #57</i>							

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY

From: (505) 532-1528  
Zia Engineering

755 S. Telshor Blvd.  
Suite Q-201  
Las Cruces, NM 88011

Origin ID: LRUA



SHIP TO: (512) 388-6222  
John Dupont  
DHL Analytical  
2300 DOUBLE CREEK DR

BILL SENDER

ROUND ROCK, TX 78664

Ship Date: 29AUG12  
ActWt/lb: 65.0 LB  
CAD: 102287640/INET3300

Delivery Address Bar Code



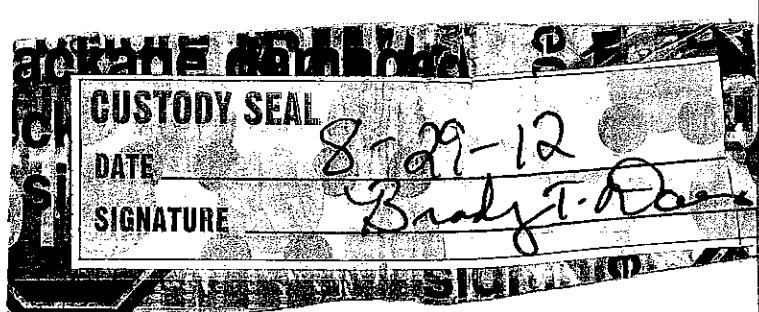
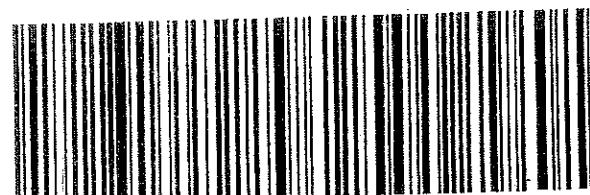
Ref #: Brad  
Invoice #: PWSE-09-015 Task 35  
PO #: Dept #:

THU - 30 AUG A1  
PRIORITY OVERNIGHT

TRK# 7988 5630 2265  
0201

78664  
TX-US  
AUS

XH BSMA



# DHL Analytical

## Sample Receipt Checklist

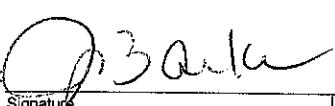
Client Name Zia Engineering & Environmental

Date Received: 8/30/2012

Work Order Number 1208269

Received by AK

Checklist completed by:



8/30/2012

Date

Reviewed by:



8/30/2012

Date

Carrier name: FedEx 1day

Shipping container/cooler in good condition? Yes  No  Not Present

Custody seals intact on shipping container/cooler? Yes  No  Not Present

Custody seals intact on sample bottles? Yes  No  Not Present

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Container/Temp Blank temperature in compliance? Yes  No  5.4 °C

Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted?



Checked by:



Any No response must be detailed in the comments section below.

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action: \_\_\_\_\_

# DHL Analytical, Inc.

## Laboratory Review Checklist: Reportable Data

Project Name: HELSTF Chromium Spill		Date: 9/12/2012					
Reviewer Name: Angie O'Donnell		Laboratory Work Order: 1208269					
Prep Batch Number(s): See Prep Dates Report		Run Batch: See Analytical Dates Report					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-Custody (C-O-C)</b> 1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt? 2) Were all departures from standard conditions described in an exception report?	X				R1-01
R2	OI	<b>Sample and Quality Control (QC) Identification</b> 1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers? 2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>Test Reports</b> 1) Were all samples prepared and analyzed within holding times? 2) Other than those results < MQL, were all other raw values bracketed by calibration standards? 3) Were calculations checked by a peer or supervisor? 4) Were all analyte identifications checked by a peer or supervisor? 5) Were sample quantitation limits reported for all analytes not detected? 6) Were all results for soil and sediment samples reported on a dry weight basis? 7) Were % moisture (or solids) reported for all soil and sediment samples? 8) If required for the project, TICs reported?	X				
R4	O	<b>Surrogate Recovery Data</b> 1) Were surrogates added prior to extraction? 2) Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	<b>Test Reports/Summary Forms for Blank Samples</b> 1) Were appropriate type(s) of blanks analyzed? 2) Were blanks analyzed at the appropriate frequency? 3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures? 4) Were blank concentrations < MQL?	X				
R6	OI	<b>Laboratory Control Samples (LCS):</b> 1) Were all COCs included in the LCS? 2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps? 3) Were LCSs analyzed at the required frequency? 4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? 5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs? 6) Was the LCSD RPD within QC limits (if applicable)?	X				
R7	OI	<b>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data</b> 1) Were the project/method specified analytes included in the MS and MSD? 2) Were MS/MSD analyzed at the appropriate frequency? 3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits? 4) Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	<b>Analytical Duplicate Data</b> 1) Were appropriate analytical duplicates analyzed for each matrix? 2) Were analytical duplicates analyzed at the appropriate frequency? 3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	<b>Method Quantitation Limits (MQLs):</b> 1) Are the MQLs for each method analyte included in the laboratory data package? 2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard? 3) Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	<b>Other Problems/Anomalies</b> 1) Are all known problems/anomalies/special conditions noted in this LRC and ER? 2) Were all necessary corrective actions performed for the reported data? 3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# DHL Analytical, Inc.

## Laboratory Review Checklist (continued): Supporting Data

Project Name: HELSTF Chromium Spill		Date: 9/12/2012				
Reviewer Name: Angie O'Donnell		Laboratory Work Order: 1208269				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>
S1	OI	<b>Initial Calibration (ICAL)</b>				
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X			
		2) Were percent RSDs or correlation coefficient criteria met?	X			
		3) Was the number of standards recommended in the method used for all analytes?	X			
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X			
		5) Are ICAL data available for all instruments used?	X			
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X			
S2	OI	<b>Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB)</b>				
		1) Was the CCV analyzed at the method-required frequency?	X			
		2) Were percent differences for each analyte within the method-required QC limits?	X			
		3) Was the ICAL curve verified for each analyte?	X			
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X			
S3	O	<b>Mass Spectral Tuning</b>				
		1) Was the appropriate compound for the method used for tuning?	X			
		2) Were ion abundance data within the method-required QC limits?	X			
S4	O	<b>Internal Standards (IS)</b>				
		1) Were IS area counts and retention times within the method-required QC limits?	X			
S5	OI	<b>Raw Data (NELAC section 1 appendix A glossary, and section 5.12)</b>				
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X			
		2) Were data associated with manual integrations flagged on the raw data?	X			
S6	O	<b>Dual Column Confirmation</b>				
		1) Did dual column confirmation results meet the method-required QC?			X	
S7	O	<b>Tentatively Identified Compounds (TICs)</b>				
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X	
S8	I	<b>Interference Check Sample (ICS) Results</b>				
		1) Were percent recoveries within method QC limits?	X			
S9	I	<b>Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions</b>				
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X			
S10	OI	<b>Method Detection Limit (MDL) Studies</b>				
		1) Was a MDL study performed for each reported analyte?	X			
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X			
S11	OI	<b>Proficiency Test Reports</b>				
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X			
S12	OI	<b>Standards Documentation</b>				
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X			
S13	OI	<b>Compound/Analyte Identification Procedures</b>				
		1) Are the procedures for compound/analyte identification documented?	X			
S14	OI	<b>Demonstration of Analyst Competency (DOC)</b>				
		1) Was DOC conducted consistent with NELAC Chapter 5C?	X			
		2) Is documentation of the analyst's competency up-to-date and on file?	X			
S15	OI	<b>Verification/Validation Documentation for Methods (NELAC Chap 5)</b>				
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X			
S16	OI	<b>Laboratory Standard Operating Procedures (SOPs)</b>				
		1) Are laboratory SOPs current and on file for each method performed?	X			

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

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3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Laboratory Data Package Signature Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

**Release Statement:** I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

John DuPont – General Manager

Scott Schroeder – Technical Director



Signature

9/12/12

Date

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Lab Order:** 1208269

**CASE NARRATIVE**

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver 4.2 and NELAC.

Samples were analyzed using the methods outlined in the following references:

Method SW6020 - Metals Analysis  
Method M8015D - DRO Analysis  
Method SW8260C - Volatile Organics  
Method M3500-CR D - Hexavalent Chromium - Water  
Method M2320 B - Alkalinity Analysis  
Method M4500-H+ B - pH of a Water  
Method M5310C - TOC Analysis

**Exception Report R1-01**

The samples were received on and log-in performed on 8/30/2012. A total of 5 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

**Exception Report R4-02**

For DRO Analysis, the recovery of surrogate Isopropylbenzene for the Laboratory Control Spike Duplicate (LCSD-53574) was slightly below the method control limits. This is flagged accordingly in the QC Summary report. The remaining surrogate was within method control limits for this sample. No further corrective actions were taken.

**Exception Report R7-02**

For DRO Analysis, an MS/MSD was not performed due to insufficient sample volume. An LCS/LCSD was performed instead.

**Exception Report R7-03**

For Volatiles Analysis, the recovery of 2-Chloroethylvinylether for the Matrix Spike and Matrix Spike Duplicate (1208290-03 MS/MSD) was outside of the method control limits. These are flagged accordingly in the QC Summary report. This compound was within method control limits in the associated LCS. The reference sample selected for the matrix spike and matrix spike duplicate was not from this work order. No further corrective actions were taken.

---

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Lab Order:** 1208269

## CASE NARRATIVE

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A summary of project communication follows:

DHL Analytical received the Project RFQ from the client on 12/29/09. Completed RFQ returned to client via email on 1/07/2010. Purchase Order/Terms and Conditions received and signed and approved by both parties on 01/25/2010.

Brad Davis of Zia requested a bottle kit via email from Jennifer Barker of DHL on 7/27/12.

DHL Bottle kit #3500 sent on 8/13/12 via Lonestar Overnight, to arrive by 8/15/12.

This sample delivery group arrived at DHL Analytical 8/30/12. Sample summary sent via email from Log-in to client on 8/30/12.

All hardcopies for the sample kit request, bill of lading for sample kit sent and login summary are kept in project folder.

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Lab Order:** 1208269

**Work Order Sample Summary**

<b>Lab Smp ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Date Collected</b>	<b>Date Recved</b>
1208269-01	HLSF-0143-HMW-011-0812		08/29/12 11:20 AM	8/30/2012
1208269-02	HLSF-0143-HMW-011-0812-TB		08/29/12 11:20 AM	8/30/2012
1208269-03	HLSF-0143-HMW-043-0812		08/29/12 12:45 PM	8/30/2012
1208269-04	HLSF-0143-HMW-143-0812		08/29/12 12:45 PM	8/30/2012
1208269-05	HLSF-0143-HMW-041-0812		08/29/12 02:20 PM	8/30/2012

**Lab Order:** 1208269  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill

## PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1208269-01A	HLSF-0143-HMW-011-0812	08/29/12 11:20 AM	Aqueous	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208269-01B	HLSF-0143-HMW-011-0812	08/29/12 11:20 AM	Aqueous	M5310C	TOC prep Aqueous	09/07/12 09:00 AM	53732
1208269-01C	HLSF-0143-HMW-011-0812	08/29/12 11:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
1208269-01D	HLSF-0143-HMW-011-0812	08/29/12 11:20 AM	Aqueous	SW7196A	Hexachrom Prep Water	08/30/12 11:00 AM	53602
	HLSF-0143-HMW-011-0812	08/29/12 11:20 AM	Aqueous	M4500-H+ B	pH Preparation	08/30/12 11:45 AM	53606
1208269-01E	HLSF-0143-HMW-011-0812	08/29/12 11:20 AM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/30/12 11:33 AM	53574
1208269-02A	HLSF-0143-HMW-011-0812-TB	08/29/12 11:20 AM	Trip Blank	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208269-03A	HLSF-0143-HMW-043-0812	08/29/12 12:45 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208269-03B	HLSF-0143-HMW-043-0812	08/29/12 12:45 PM	Aqueous	M5310C	TOC prep Aqueous	09/07/12 09:00 AM	53732
1208269-03C	HLSF-0143-HMW-043-0812	08/29/12 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
1208269-03D	HLSF-0143-HMW-043-0812	08/29/12 12:45 PM	Aqueous	SW7196A	Hexachrom Prep Water	08/30/12 11:00 AM	53602
	HLSF-0143-HMW-043-0812	08/29/12 12:45 PM	Aqueous	M4500-H+ B	pH Preparation	08/30/12 11:45 AM	53606
1208269-03E	HLSF-0143-HMW-043-0812	08/29/12 12:45 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/30/12 11:33 AM	53574
1208269-04A	HLSF-0143-HMW-143-0812	08/29/12 12:45 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208269-04B	HLSF-0143-HMW-143-0812	08/29/12 12:45 PM	Aqueous	M5310C	TOC prep Aqueous	09/07/12 09:00 AM	53732
1208269-04C	HLSF-0143-HMW-143-0812	08/29/12 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
1208269-04D	HLSF-0143-HMW-143-0812	08/29/12 12:45 PM	Aqueous	SW7196A	Hexachrom Prep Water	08/30/12 11:00 AM	53602
	HLSF-0143-HMW-143-0812	08/29/12 12:45 PM	Aqueous	M4500-H+ B	pH Preparation	08/30/12 11:45 AM	53606
1208269-04E	HLSF-0143-HMW-143-0812	08/29/12 12:45 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/30/12 11:33 AM	53574
1208269-05A	HLSF-0143-HMW-041-0812	08/29/12 02:20 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626

**Lab Order:** 1208269  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill

**PREP DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1208269-05B	HLSF-0143-HMW-041-0812	08/29/12 02:20 PM	Aqueous	M5310C	TOC prep Aqueous	09/07/12 09:00 AM	53732
1208269-05C	HLSF-0143-HMW-041-0812	08/29/12 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
1208269-05D	HLSF-0143-HMW-041-0812	08/29/12 02:20 PM	Aqueous	SW7196A	Hexachrom Prep Water	08/30/12 11:00 AM	53602
	HLSF-0143-HMW-041-0812	08/29/12 02:20 PM	Aqueous	M4500-H+ B	pH Preparation	08/30/12 11:45 AM	53606
1208269-05E	HLSF-0143-HMW-041-0812	08/29/12 02:20 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/30/12 11:33 AM	53574

**Lab Order:** 1208269  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill

## ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1208269-01A	HLSF-0143-HMW-011-0812	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 06:31 PM	GCMS7_120831B
1208269-01B	HLSF-0143-HMW-011-0812	Aqueous	M5310C	Total Organic Carbon	53732	1	09/07/12 11:40 AM	TOC_120907A
1208269-01C	HLSF-0143-HMW-011-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	1	09/05/12 01:11 PM	ICP-MS3_120905A
1208269-01D	HLSF-0143-HMW-011-0812	Aqueous	M3500-Cr D	Hexavalent Chromium-Water	53602	1	08/30/12 11:37 AM	UV/VIS_2_120830A
	HLSF-0143-HMW-011-0812	Aqueous	M4500-H+ B	pH	53606	1	08/30/12 11:58 AM	TITRATOR_120830A
1208269-01E	HLSF-0143-HMW-011-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 03:10 PM	GC15_120830A
1208269-02A	HLSF-0143-HMW-011-0812-TB	Trip Blank	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 06:56 PM	GCMS7_120831B
1208269-03A	HLSF-0143-HMW-043-0812	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 07:20 PM	GCMS7_120831B
1208269-03B	HLSF-0143-HMW-043-0812	Aqueous	M5310C	Total Organic Carbon	53732	1	09/07/12 12:00 PM	TOC_120907A
1208269-03C	HLSF-0143-HMW-043-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	1	09/05/12 01:33 PM	ICP-MS3_120905A
1208269-03D	HLSF-0143-HMW-043-0812	Aqueous	M3500-Cr D	Hexavalent Chromium-Water	53602	1	08/30/12 11:41 AM	UV/VIS_2_120830A
	HLSF-0143-HMW-043-0812	Aqueous	M4500-H+ B	pH	53606	1	08/30/12 12:03 PM	TITRATOR_120830A
1208269-03E	HLSF-0143-HMW-043-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 03:19 PM	GC15_120830A
1208269-04A	HLSF-0143-HMW-143-0812	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 07:45 PM	GCMS7_120831B
1208269-04B	HLSF-0143-HMW-143-0812	Aqueous	M5310C	Total Organic Carbon	53732	1	09/07/12 12:20 PM	TOC_120907A
1208269-04C	HLSF-0143-HMW-143-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	1	09/05/12 01:22 PM	ICP-MS3_120905A
1208269-04D	HLSF-0143-HMW-143-0812	Aqueous	M3500-Cr D	Hexavalent Chromium-Water	53602	1	08/30/12 11:42 AM	UV/VIS_2_120830A
	HLSF-0143-HMW-143-0812	Aqueous	M4500-H+ B	pH	53606	1	08/30/12 12:05 PM	TITRATOR_120830A
1208269-04E	HLSF-0143-HMW-143-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 03:29 PM	GC15_120830A
1208269-05A	HLSF-0143-HMW-041-0812	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 08:09 PM	GCMS7_120831B

**Lab Order:** 1208269  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill

## ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1208269-05B	HLSF-0143-HMW-041-0812	Aqueous	M5310C	Total Organic Carbon	53732	1	09/07/12 12:41 PM	TOC_120907A
1208269-05C	HLSF-0143-HMW-041-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	1	09/05/12 01:27 PM	ICP-MS3_120905A
1208269-05D	HLSF-0143-HMW-041-0812	Aqueous	M3500-Cr D	Hexavalent Chromium-Water	53602	1	08/30/12 11:42 AM	UV/VIS_2_120830A
	HLSF-0143-HMW-041-0812	Aqueous	M4500-H+ B	pH	53606	1	08/30/12 12:07 PM	TITRATOR_120830A
1208269-05E	HLSF-0143-HMW-041-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 03:38 PM	GC15_120830A

# DHL Analytical

Date: 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-011-0812  
**Lab ID:** 1208269-01  
**Collection Date:** 08/29/12 11:20 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>							
TPH-DRO C10-C28	0.0793	0.0500	0.100	J	mg/L	1	08/30/12 03:10 PM
Surr: Isopropylbenzene	75.1	0	47-142	%REC	%REC	1	08/30/12 03:10 PM
Surr: Octacosane	99.5	0	51-124	%REC	%REC	1	08/30/12 03:10 PM
<b>TRACE METALS: ICP-MS - WATER</b>							
Chromium	0.102	0.00200	0.00600		mg/L	1	09/05/12 01:11 PM
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
1,1-Dichloroethane	0.000870	0.000200	0.00100	J	mg/L	1	08/31/12 06:31 PM
1,1-Dichloroethene	0.000450	0.000200	0.00100	J	mg/L	1	08/31/12 06:31 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:31 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:31 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:31 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 06:31 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:31 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 06:31 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:31 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:31 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:31 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:31 PM
Acetone	0.00686	0.00500	0.0150	J	mg/L	1	08/31/12 06:31 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 06:31 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
C Sample Result or QC discussed in the Case Narrative  
E TPH pattern not Gas or Diesel Range Pattern  
MDL Method Detection Limit  
RL Reporting Limit  
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical

Date: 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-011-0812  
**Lab ID:** 1208269-01  
**Collection Date:** 08/29/12 11:20 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:31 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
Chloroform	0.000310	0.000300	0.00100	J	mg/L	1	08/31/12 06:31 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:31 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:31 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 06:31 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:31 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:31 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:31 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Trichloroethene	0.0164	0.000600	0.00200		mg/L	1	08/31/12 06:31 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:31 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 06:31 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120	%REC	1	08/31/12 06:31 PM	
Surr: 4-Bromofluorobenzene	110	0	75-120	%REC	1	08/31/12 06:31 PM	

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
 C Sample Result or QC discussed in the Case Narrative  
 E TPH pattern not Gas or Diesel Range Pattern  
 MDL Method Detection Limit  
 RL Reporting Limit  
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
 DF Dilution Factor  
 J Analyte detected between MDL and RL  
 ND Not Detected at the Method Detection Limit  
 S Spike Recovery outside control limits

**DHL Analytical****Date:** 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-011-0812  
**Lab ID:** 1208269-01  
**Collection Date:** 08/29/12 11:20 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>				<b>SW8260C</b>			Analyst: <b>KL</b>
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	08/31/12 06:31 PM
Surr: Toluene-d8	101	0	85-120		%REC	1	08/31/12 06:31 PM
<b>HEXAVALENT CHROMIUM-WATER</b>				<b>M3500-CR D</b>			Analyst: <b>JBC</b>
Hexavalent Chromium	0.0915	0.00800	0.0100		mg/L	1	08/30/12 11:37 AM
<b>PH</b>				<b>M4500-H+ B</b>			Analyst: <b>JBC</b>
pH	7.55	0	0		pH Units	1	08/30/12 11:58 AM
<b>TOTAL ORGANIC CARBON</b>				<b>M5310C</b>			Analyst: <b>JCG</b>
Total Organic Carbon	0.724	0.300	1.00	J	mg/L	1	09/07/12 11:40 AM

<b>Qualifiers:</b>	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit		ND	Not Detected at the Method Detection Limit
RL	Reporting Limit		S	Spike Recovery outside control limits
N	Parameter not NELAC certified			

# DHL Analytical

Date: 12-Sep-12

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-0143-HMW-011-0812-TB
<b>Project:</b>	HELSTF Chromium Spill	<b>Lab ID:</b>	1208269-02
<b>Project No:</b>	<b>Collection Date:</b> 08/29/12 11:20 AM		
<b>Lab Order:</b>	<b>Matrix:</b> TRIP BLANK		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:56 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:56 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:56 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 06:56 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:56 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 06:56 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:56 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:56 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:56 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:56 PM
Acetone	0.00553	0.00500	0.0150	J	mg/L	1	08/31/12 06:56 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 06:56 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:56 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical

Date: 12-Sep-12

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-0143-HMW-011-0812-TB
<b>Project:</b>	HELSTF Chromium Spill	<b>Lab ID:</b>	1208269-02
<b>Project No:</b>	<b>Collection Date:</b> 08/29/12 11:20 AM		
<b>Lab Order:</b>	<b>Matrix:</b> TRIP BLANK		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:56 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:56 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 06:56 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:56 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:56 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:56 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:56 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:56 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 06:56 PM
Surr: 1,2-Dichloroethane-d4	103	0	70-120	%REC	1	08/31/12 06:56 PM	
Surr: 4-Bromofluorobenzene	110	0	75-120	%REC	1	08/31/12 06:56 PM	
Surr: Dibromofluoromethane	103	0	85-115	%REC	1	08/31/12 06:56 PM	
Surr: Toluene-d8	102	0	85-120	%REC	1	08/31/12 06:56 PM	

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical

Date: 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-043-0812  
**Lab ID:** 1208269-03  
**Collection Date:** 08/29/12 12:45 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>							
TPH-DRO C10-C28	0.0664	0.0500	0.100	J	mg/L	1	08/30/12 03:19 PM
Surr: Isopropylbenzene	76.1	0	47-142	%REC	%REC	1	08/30/12 03:19 PM
Surr: Octacosane	96.8	0	51-124	%REC	%REC	1	08/30/12 03:19 PM
<b>TRACE METALS: ICP-MS - WATER</b>							
Chromium	0.00976	0.00200	0.00600		mg/L	1	09/05/12 01:33 PM
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 07:20 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 07:20 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 07:20 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 07:20 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 07:20 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 07:20 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:20 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:20 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:20 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:20 PM
Acetone	0.0106	0.00500	0.0150	J	mg/L	1	08/31/12 07:20 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 07:20 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
C Sample Result or QC discussed in the Case Narrative  
E TPH pattern not Gas or Diesel Range Pattern  
MDL Method Detection Limit  
RL Reporting Limit  
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical

Date: 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-043-0812  
**Lab ID:** 1208269-03  
**Collection Date:** 08/29/12 12:45 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:20 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
Chloroform	0.00246	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:20 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 07:20 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 07:20 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:20 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 07:20 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 07:20 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 07:20 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:20 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 07:20 PM
Surr: 1,2-Dichloroethane-d4	101	0	70-120	%REC	1	08/31/12 07:20 PM	
Surr: 4-Bromofluorobenzene	109	0	75-120	%REC	1	08/31/12 07:20 PM	

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
 C Sample Result or QC discussed in the Case Narrative  
 E TPH pattern not Gas or Diesel Range Pattern  
 MDL Method Detection Limit  
 RL Reporting Limit  
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
 DF Dilution Factor  
 J Analyte detected between MDL and RL  
 ND Not Detected at the Method Detection Limit  
 S Spike Recovery outside control limits

**DHL Analytical****Date:** 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-043-0812  
**Lab ID:** 1208269-03  
**Collection Date:** 08/29/12 12:45 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>				<b>SW8260C</b>			Analyst: <b>KL</b>
Surr: Dibromofluoromethane	103	0	85-115		%REC	1	08/31/12 07:20 PM
Surr: Toluene-d8	102	0	85-120		%REC	1	08/31/12 07:20 PM
<b>HEXAVALENT CHROMIUM-WATER</b>				<b>M3500-CR D</b>			Analyst: <b>JBC</b>
Hexavalent Chromium	<0.00800	0.00800	0.0100		mg/L	1	08/30/12 11:41 AM
<b>PH</b>				<b>M4500-H+ B</b>			Analyst: <b>JBC</b>
pH	7.39	0	0		pH Units	1	08/30/12 12:03 PM
<b>TOTAL ORGANIC CARBON</b>				<b>M5310C</b>			Analyst: <b>JCG</b>
Total Organic Carbon	1.16	0.300	1.00		mg/L	1	09/07/12 12:00 PM

<b>Qualifiers:</b>	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit		ND	Not Detected at the Method Detection Limit
RL	Reporting Limit		S	Spike Recovery outside control limits
N	Parameter not NELAC certified			

# DHL Analytical

Date: 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-143-0812  
**Lab ID:** 1208269-04  
**Collection Date:** 08/29/12 12:45 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>							
TPH-DRO C10-C28	0.0569	0.0500	0.100	J	mg/L	1	08/30/12 03:29 PM
Surr: Isopropylbenzene	78.8	0	47-142	%REC	%REC	1	08/30/12 03:29 PM
Surr: Octacosane	99.5	0	51-124	%REC	%REC	1	08/30/12 03:29 PM
<b>TRACE METALS: ICP-MS - WATER</b>							
Chromium	0.00888	0.00200	0.00600		mg/L	1	09/05/12 01:22 PM
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 07:45 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 07:45 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 07:45 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 07:45 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 07:45 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 07:45 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:45 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:45 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:45 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:45 PM
Acetone	0.00997	0.00500	0.0150	J	mg/L	1	08/31/12 07:45 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 07:45 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
C Sample Result or QC discussed in the Case Narrative  
E TPH pattern not Gas or Diesel Range Pattern  
MDL Method Detection Limit  
RL Reporting Limit  
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical

Date: 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-143-0812  
**Lab ID:** 1208269-04  
**Collection Date:** 08/29/12 12:45 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:45 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
Chloroform	0.00249	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 07:45 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 07:45 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 07:45 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 07:45 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 07:45 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 07:45 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 07:45 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 07:45 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 07:45 PM
Surr: 1,2-Dichloroethane-d4	101	0	70-120	%REC	1	08/31/12 07:45 PM	
Surr: 4-Bromofluorobenzene	110	0	75-120	%REC	1	08/31/12 07:45 PM	

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
 C Sample Result or QC discussed in the Case Narrative  
 E TPH pattern not Gas or Diesel Range Pattern  
 MDL Method Detection Limit  
 RL Reporting Limit  
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
 DF Dilution Factor  
 J Analyte detected between MDL and RL  
 ND Not Detected at the Method Detection Limit  
 S Spike Recovery outside control limits

**DHL Analytical****Date:** 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-143-0812  
**Lab ID:** 1208269-04  
**Collection Date:** 08/29/12 12:45 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>				<b>SW8260C</b>			Analyst: <b>KL</b>
Surr: Dibromofluoromethane	103	0	85-115		%REC	1	08/31/12 07:45 PM
Surr: Toluene-d8	102	0	85-120		%REC	1	08/31/12 07:45 PM
<b>HEXAVALENT CHROMIUM-WATER</b>				<b>M3500-CR D</b>			Analyst: <b>JBC</b>
Hexavalent Chromium	<0.00800	0.00800	0.0100		mg/L	1	08/30/12 11:42 AM
<b>PH</b>				<b>M4500-H+ B</b>			Analyst: <b>JBC</b>
pH	7.39	0	0		pH Units	1	08/30/12 12:05 PM
<b>TOTAL ORGANIC CARBON</b>				<b>M5310C</b>			Analyst: <b>JCG</b>
Total Organic Carbon	1.09	0.300	1.00		mg/L	1	09/07/12 12:20 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
 C Sample Result or QC discussed in the Case Narrative  
 E TPH pattern not Gas or Diesel Range Pattern  
 MDL Method Detection Limit  
 RL Reporting Limit  
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
 DF Dilution Factor  
 J Analyte detected between MDL and RL  
 ND Not Detected at the Method Detection Limit  
 S Spike Recovery outside control limits

# DHL Analytical

Date: 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-041-0812  
**Lab ID:** 1208269-05  
**Collection Date:** 08/29/12 02:20 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>							
TPH-DRO C10-C28	0.0646	0.0500	0.100	J	mg/L	1	08/30/12 03:38 PM
Surr: Isopropylbenzene	72.6	0	47-142	%REC	%REC	1	08/30/12 03:38 PM
Surr: Octacosane	96.8	0	51-124	%REC	%REC	1	08/30/12 03:38 PM
<b>TRACE METALS: ICP-MS - WATER</b>							
Chromium	0.492	0.00200	0.00600		mg/L	1	09/05/12 01:27 PM
<b>8260 WATER VOLATILES BY GC/MS</b>							
		<b>SW8260C</b>					Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,1-Dichloroethane	0.000380	0.000200	0.00100	J	mg/L	1	08/31/12 08:09 PM
1,1-Dichloroethene	0.00222	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 08:09 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 08:09 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 08:09 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 08:09 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 08:09 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 08:09 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 08:09 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 08:09 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 08:09 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 08:09 PM
Acetone	0.0228	0.00500	0.0150		mg/L	1	08/31/12 08:09 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 08:09 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
C Sample Result or QC discussed in the Case Narrative  
E TPH pattern not Gas or Diesel Range Pattern  
MDL Method Detection Limit  
RL Reporting Limit  
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical

Date: 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-041-0812  
**Lab ID:** 1208269-05  
**Collection Date:** 08/29/12 02:20 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: KL
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 08:09 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
Chloroform	0.000720	0.000300	0.00100	J	mg/L	1	08/31/12 08:09 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 08:09 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:09 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 08:09 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 08:09 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:09 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:09 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Trichloroethene	0.0776	0.000600	0.00200		mg/L	1	08/31/12 08:09 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 08:09 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 08:09 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120	%REC	1	08/31/12 08:09 PM	
Surr: 4-Bromofluorobenzene	110	0	75-120	%REC	1	08/31/12 08:09 PM	

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
 C Sample Result or QC discussed in the Case Narrative  
 E TPH pattern not Gas or Diesel Range Pattern  
 MDL Method Detection Limit  
 RL Reporting Limit  
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
 DF Dilution Factor  
 J Analyte detected between MDL and RL  
 ND Not Detected at the Method Detection Limit  
 S Spike Recovery outside control limits

**DHL Analytical****Date:** 12-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill  
**Project No:**  
**Lab Order:** 1208269

**Client Sample ID:** HLSF-0143-HMW-041-0812  
**Lab ID:** 1208269-05  
**Collection Date:** 08/29/12 02:20 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>				<b>SW8260C</b>			Analyst: <b>KL</b>
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	08/31/12 08:09 PM
Surr: Toluene-d8	101	0	85-120		%REC	1	08/31/12 08:09 PM
<b>HEXAVALENT CHROMIUM-WATER</b>				<b>M3500-CR D</b>			Analyst: <b>JBC</b>
Hexavalent Chromium	0.460	0.00800	0.0100		mg/L	1	08/30/12 11:42 AM
<b>PH</b>				<b>M4500-H+ B</b>			Analyst: <b>JBC</b>
pH	7.53	0	0		pH Units	1	08/30/12 12:07 PM
<b>TOTAL ORGANIC CARBON</b>				<b>M5310C</b>			Analyst: <b>JCG</b>
Total Organic Carbon	0.803	0.300	1.00	J	mg/L	1	09/07/12 12:41 PM

<b>Qualifiers:</b>	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit		ND	Not Detected at the Method Detection Limit
RL	Reporting Limit		S	Spike Recovery outside control limits
N	Parameter not NELAC certified			

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

**ANALYTICAL QC SUMMARY REPORT****RunID: GC15\_120830A**

The QC data in batch 53574 applies to the following samples: 1208269-01E, 1208269-03E, 1208269-04E, 1208269-05E

Sample ID: LCS-53574	Batch ID: 53574	TestNo: M8015D	Units: mg/L							
SampType: LCS	Run ID: GC15_120830A	Analysis Date: 8/30/2012 10:05:51 AM	Prep Date: 8/29/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.07	0.100	1.250	0	85.2	50	114			
Surr: Isopropylbenzene	0.0515		0.1000		51.5	47	142			
Surr: Octacosane	0.0959		0.1000		95.9	51	124			
Sample ID: LCSD-53574	Batch ID: 53574	TestNo: M8015D	Units: mg/L							
SampType: LCSD	Run ID: GC15_120830A	Analysis Date: 8/30/2012 10:14:20 AM	Prep Date: 8/29/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.06	0.100	1.250	0	85.0	50	114	0.205	30	
Surr: Isopropylbenzene	0.0378		0.1000		37.8	47	142	0	0	S
Surr: Octacosane	0.0933		0.1000		93.3	51	124	0	0	
Sample ID: MB-53574	Batch ID: 53574	TestNo: M8015D	Units: mg/L							
SampType: MBLK	Run ID: GC15_120830A	Analysis Date: 8/30/2012 10:31:18 AM	Prep Date: 8/29/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0735		0.1000		73.5	47	142			
Surr: Octacosane	0.0942		0.1000		94.2	51	124			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GC15\_120830A

Sample ID: ICV-120830	Batch ID: R62324	TestNo:	M8015D	Units:	mg/L					
SampType: ICV	Run ID: GC15_120830A	Analysis Date: 8/30/2012 9:38:20 AM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	554	0.100	500.0	0	111	80	120			
Surr: Isopropylbenzene	26.2		25.00		105	80	120			
Surr: Octacosane	24.9		25.00		99.4	80	120			
Sample ID: CCV3-120830	Batch ID: R62324	TestNo:	M8015D	Units:	mg/L					
SampType: CCV	Run ID: GC15_120830A	Analysis Date: 8/30/2012 2:53:58 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	283	0.100	250.0	0	113	80	120			
Surr: Isopropylbenzene	13.9		12.50		112	80	120			
Surr: Octacosane	13.5		12.50		108	80	120			
Sample ID: CCV4-120830	Batch ID: R62324	TestNo:	M8015D	Units:	mg/L					
SampType: CCV	Run ID: GC15_120830A	Analysis Date: 8/30/2012 4:45:49 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	290	0.100	250.0	0	116	80	120			
Surr: Isopropylbenzene	14.0		12.50		112	80	120			
Surr: Octacosane	14.1		12.50		113	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_120905A

The QC data in batch 53642 applies to the following samples: 1208269-01C, 1208269-03C, 1208269-04C, 1208269-05C

Sample ID: <b>MB-53642</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>								
SampType: <b>MLBK</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:14:00 PM</b>	Prep Date: <b>9/4/2012</b>								
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>											
Chromium	<0.00200	0.00600									
Sample ID: <b>LCS-53642</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>								
SampType: <b>LCS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:20:00 PM</b>	Prep Date: <b>9/4/2012</b>								
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>											
Chromium	0.219	0.00600	0.200	0	110	80	120				
Sample ID: <b>LCSD-53642</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>								
SampType: <b>LCSD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:26:00 PM</b>	Prep Date: <b>9/4/2012</b>								
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>											
Chromium	0.219	0.00600	0.200	0	109	80	120	0.137	15		
Sample ID: <b>1208290-03C SD</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>								
SampType: <b>SD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:43:00 PM</b>	Prep Date: <b>9/4/2012</b>								
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>											
Chromium	0.215	0.0300	0	0.198				7.94	10		
Sample ID: <b>1208290-03C PDS</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>								
SampType: <b>PDS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 1:44:00 PM</b>	Prep Date: <b>9/4/2012</b>								
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>											
Chromium	0.373	0.00600	0.200	0.198	87.2	75	125				
Sample ID: <b>1208290-03C MS</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>								
SampType: <b>MS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 1:50:00 PM</b>	Prep Date: <b>9/4/2012</b>								
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>											
Chromium	0.379	0.00600	0.200	0.198	90.4	80	120				
Sample ID: <b>1208290-03C MSD</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>								
SampType: <b>MSD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 1:55:00 PM</b>	Prep Date: <b>9/4/2012</b>								
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>											
Chromium	0.377	0.00600	0.200	0.198	89.2	80	120	0.582	15		

**Qualifiers:**    B Analyte detected in the associated Method Blank  
                   J Analyte detected between MDL and RL  
                   ND Not Detected at the Method Detection Limit  
                   RL Reporting Limit  
                   J Analyte detected between SDL and RL

DF Dilution Factor  
        MDL Method Detection Limit  
        R RPD outside accepted control limits  
        S Spike Recovery outside control limits  
        N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_120905A

Sample ID: ICV1-120905	Batch ID: R62384	TestNo:	SW6020	Units:	mg/L					
SampType: ICV	Run ID: ICP-MS3_120905A	Analysis Date: 9/5/2012 11:50:00 AM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.110	0.00600	0.100	0	110	90	110			
Sample ID: CCV1-120905	Batch ID: R62384	TestNo:	SW6020	Units:	mg/L					
SampType: CCV	Run ID: ICP-MS3_120905A	Analysis Date: 9/5/2012 2:48:00 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.214	0.00600	0.200	0	107	90	110			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

The QC data in batch 53626 applies to the following samples: 1208269-01A, 1208269-02A, 1208269-03A, 1208269-04A, 1208269-05A

Sample ID: LCS-53626	Batch ID: 53626	TestNo: SW8260C	Units: mg/L							
SampType: LCS	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 12:01:00 PM	Prep Date: 8/31/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0229	0.00100	0.0232	0	98.5	80	130			
1,1,1-Trichloroethane	0.0226	0.00100	0.0232	0	97.5	65	130			
1,1,2,2-Tetrachloroethane	0.0246	0.00100	0.0232	0	106	65	130			
1,1,2-Trichloroethane	0.0227	0.00100	0.0232	0	97.8	75	125			
1,1-Dichloroethane	0.0222	0.00100	0.0232	0	95.7	70	135			
1,1-Dichloroethene	0.0215	0.00100	0.0232	0	92.7	70	130			
1,1-Dichloropropene	0.0220	0.00100	0.0232	0	94.8	75	130			
1,2,3-Trichlorobenzene	0.0219	0.00500	0.0232	0	94.4	55	140			
1,2,3-Trichloropropane	0.0235	0.00100	0.0232	0	101	75	125			
1,2,4-Trichlorobenzene	0.0211	0.00500	0.0232	0	91.1	65	135			
1,2,4-Trimethylbenzene	0.0234	0.00500	0.0232	0	101	75	130			
1,2-Dibromo-3-chloropropane	0.0235	0.0100	0.0232	0	101	50	130			
1,2-Dibromoethane	0.0232	0.00100	0.0232	0	100	80	120			
1,2-Dichlorobenzene	0.0229	0.00100	0.0232	0	98.7	70	120			
1,2-Dichloroethane	0.0229	0.00100	0.0232	0	98.9	70	130			
1,2-Dichloropropane	0.0227	0.00100	0.0232	0	97.9	75	125			
1,3,5-Trimethylbenzene	0.0234	0.00500	0.0232	0	101	75	130			
1,3-Dichlorobenzene	0.0226	0.00100	0.0232	0	97.4	75	125			
1,3-Dichloropropane	0.0233	0.00100	0.0232	0	100	75	125			
1,4-Dichloro-2-butene	0.0245	0.00200	0.0232	0	106	50	150			
1,4-Dichlorobenzene	0.0230	0.00100	0.0232	0	99.1	75	125			
2,2-Dichloropropane	0.0231	0.00100	0.0232	0	99.4	70	135			
2-Butanone	0.0244	0.0150	0.0232	0	105	30	150			
2-Chloroethylvinylether	0.0190	0.0150	0.0232	0	82.0	50	150			
2-Chlorotoluene	0.0231	0.00100	0.0232	0	99.6	75	125			
2-Hexanone	0.0235	0.0150	0.0232	0	101	55	130			
4-Chlorotoluene	0.0232	0.00100	0.0232	0	100	75	130			
4-Methyl-2-pentanone	0.0241	0.0150	0.0232	0	104	60	135			
Acetone	0.0273	0.0150	0.0232	0	118	40	140			
Acrylonitrile	0.0489	0.00300	0.0464	0	105	50	150			
Benzene	0.0226	0.00100	0.0232	0	97.4	80	120			
Bromobenzene	0.0228	0.00100	0.0232	0	98.4	75	125			
Bromochloromethane	0.0236	0.00100	0.0232	0	102	65	130			
Bromodichloromethane	0.0229	0.00100	0.0232	0	98.8	75	120			
Bromoform	0.0229	0.00100	0.0232	0	98.9	70	130			
Bromomethane	0.0192	0.00100	0.0232	0	82.5	30	145			
Carbon disulfide	0.0211	0.0150	0.0232	0	91.0	35	160			
Carbon tetrachloride	0.0224	0.00100	0.0232	0	96.4	65	140			
Chlorobenzene	0.0230	0.00100	0.0232	0	99.1	80	120			
Chloroethane	0.0229	0.00100	0.0232	0	98.6	60	135			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: LCS-53626	Batch ID: 53626	TestNo: SW8260C	Units: mg/L							
SampType: LCS	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 12:01:00 PM Prep Date: 8/31/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloroform	0.0223	0.00100	0.0232	0	96.3	65	135			
Chloromethane	0.0202	0.00100	0.0232	0	87.1	40	125			
cis-1,2-Dichloroethene	0.0233	0.00100	0.0232	0	101	70	125			
cis-1,3-Dichloropropene	0.0227	0.00100	0.0232	0	97.8	70	130			
Dibromochloromethane	0.0231	0.00100	0.0232	0	99.4	60	135			
Dibromomethane	0.0232	0.00100	0.0232	0	99.9	75	125			
Dichlorodifluoromethane	0.0188	0.00100	0.0232	0	81.1	30	155			
Ethylbenzene	0.0228	0.00100	0.0232	0	98.4	75	125			
Iodomethane	0.0207	0.0150	0.0232	0	89.4	50	150			
Isopropylbenzene	0.0233	0.00100	0.0232	0	101	75	125			
m,p-Xylene	0.0459	0.00200	0.0464	0	99.0	75	130			
Methyl tert-butyl ether	0.0231	0.00100	0.0232	0	99.7	65	125			
Methylene chloride	0.0229	0.00250	0.0232	0	98.6	55	140			
n-Butylbenzene	0.0233	0.00100	0.0232	0	101	70	135			
n-Propylbenzene	0.0232	0.00100	0.0232	0	100	70	130			
o-Xylene	0.0232	0.00100	0.0232	0	100	80	120			
p-Isopropyltoluene	0.0229	0.00100	0.0232	0	98.6	75	130			
sec-Butylbenzene	0.0231	0.00100	0.0232	0	99.6	70	125			
Styrene	0.0230	0.00100	0.0232	0	99.1	65	135			
tert-Butylbenzene	0.0229	0.00100	0.0232	0	98.9	70	130			
Tetrachloroethene	0.0224	0.00200	0.0232	0	96.5	45	150			
Toluene	0.0226	0.00200	0.0232	0	97.2	75	120			
trans-1,2-Dichloroethene	0.0219	0.00100	0.0232	0	94.3	60	140			
trans-1,3-Dichloropropene	0.0227	0.00100	0.0232	0	97.7	55	140			
Trichloroethene	0.0219	0.00200	0.0232	0	94.4	70	125			
Trichlorofluoromethane	0.0224	0.00100	0.0232	0	96.8	60	145			
Vinyl chloride	0.0215	0.00100	0.0232	0	92.7	50	145			
Surr: 1,2-Dichloroethane-d4	207		200.0		103	70	120			
Surr: 4-Bromofluorobenzene	201		200.0		101	75	120			
Surr: Dibromofluoromethane	200		200.0		100	85	115			
Surr: Toluene-d8	202		200.0		101	85	120			

Sample ID: MB-53626	Batch ID: 53626	TestNo: SW8260C	Units: mg/L							
SampType: MBLK	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 12:26:00 PM Prep Date: 8/31/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	<0.000200	0.00100								
1,1,1-Trichloroethane	<0.000200	0.00100								
1,1,2,2-Tetrachloroethane	<0.000200	0.00100								
1,1,2-Trichloroethane	<0.000200	0.00100								
1,1-Dichloroethane	<0.000200	0.00100								

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: MB-53626	Batch ID: 53626	TestNo: SW8260C	Units: mg/L							
SampType: MBLK	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 12:26:00 PM Prep Date: 8/31/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	<0.000200	0.00100								
1,1-Dichloropropene	<0.000200	0.00100								
1,2,3-Trichlorobenzene	<0.00150	0.00500								
1,2,3-Trichloropropane	<0.000300	0.00100								
1,2,4-Trichlorobenzene	<0.00150	0.00500								
1,2,4-Trimethylbenzene	<0.00150	0.00500								
1,2-Dibromo-3-chloropropane	<0.00300	0.0100								
1,2-Dibromoethane	<0.000200	0.00100								
1,2-Dichlorobenzene	<0.000300	0.00100								
1,2-Dichloroethane	<0.000300	0.00100								
1,2-Dichloropropane	<0.000200	0.00100								
1,3,5-Trimethylbenzene	<0.00150	0.00500								
1,3-Dichlorobenzene	<0.000300	0.00100								
1,3-Dichloropropane	<0.000200	0.00100								
1,4-Dichloro-2-butene	<0.00200	0.00200								
1,4-Dichlorobenzene	<0.000300	0.00100								
2,2-Dichloropropane	<0.000200	0.00100								
2-Butanone	<0.00500	0.0150								
2-Chloroethylvinylether	<0.00500	0.0150								
2-Chlorotoluene	<0.000300	0.00100								
2-Hexanone	<0.00500	0.0150								
4-Chlorotoluene	<0.000300	0.00100								
4-Methyl-2-pentanone	<0.00500	0.0150								
Acetone	<0.00500	0.0150								
Acrylonitrile	<0.00100	0.00300								
Benzene	<0.000200	0.00100								
Bromobenzene	<0.000200	0.00100								
Bromochloromethane	<0.000200	0.00100								
Bromodichloromethane	<0.000200	0.00100								
Bromoform	<0.000200	0.00100								
Bromomethane	<0.000300	0.00100								
Carbon disulfide	<0.00500	0.0150								
Carbon tetrachloride	<0.000200	0.00100								
Chlorobenzene	<0.000200	0.00100								
Chloroethane	<0.000300	0.00100								
Chloroform	<0.000300	0.00100								
Chloromethane	<0.000300	0.00100								
cis-1,2-Dichloroethene	<0.000200	0.00100								
cis-1,3-Dichloropropene	<0.000200	0.00100								
Dibromochloromethane	<0.000200	0.00100								
Dibromomethane	<0.000200	0.00100								

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: MB-53626	Batch ID: 53626	TestNo: SW8260C	Units: mg/L							
SampType: MBLK	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 12:26:00 PM Prep Date: 8/31/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	<0.000200	0.00100								
Ethylbenzene	<0.000300	0.00100								
Iodomethane	<0.00500	0.0150								
Isopropylbenzene	<0.000200	0.00100								
m,p-Xylene	<0.000600	0.00200								
Methyl tert-butyl ether	<0.000300	0.00100								
Methylene chloride	<0.00250	0.00250								
n-Butylbenzene	<0.000300	0.00100								
n-Propylbenzene	<0.000300	0.00100								
o-Xylene	<0.000300	0.00100								
p-Isopropyltoluene	<0.000300	0.00100								
sec-Butylbenzene	<0.000300	0.00100								
Styrene	<0.000200	0.00100								
tert-Butylbenzene	<0.000300	0.00100								
Tetrachloroethene	<0.000600	0.00200								
Toluene	<0.000600	0.00200								
trans-1,2-Dichloroethene	<0.000200	0.00100								
trans-1,3-Dichloropropene	<0.000200	0.00100								
Trichloroethene	<0.000600	0.00200								
Trichlorofluoromethane	<0.000200	0.00100								
Vinyl chloride	<0.000100	0.00100								
Surr: 1,2-Dichloroethane-d4	202		200.0		101	70	120			
Surr: 4-Bromofluorobenzene	203		200.0		102	75	120			
Surr: Dibromofluoromethane	203		200.0		101	85	115			
Surr: Toluene-d8	204		200.0		102	85	120			

Sample ID: 1208290-03AMS	Batch ID: 53626	TestNo: SW8260C	Units: mg/L							
SampType: MS	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 2:02:00 PM Prep Date: 8/31/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0233	0.00100	0.0232	0	100	80	130			
1,1,1-Trichloroethane	0.0234	0.00100	0.0232	0	101	65	130			
1,1,2,2-Tetrachloroethane	0.0254	0.00100	0.0232	0	110	65	130			
1,1,2-Trichloroethane	0.0234	0.00100	0.0232	0	101	75	125			
1,1-Dichloroethane	0.0231	0.00100	0.0232	0	99.4	70	135			
1,1-Dichloroethene	0.0233	0.00100	0.0232	0.00138	94.6	70	130			
1,1-Dichloropropene	0.0228	0.00100	0.0232	0	98.1	75	130			
1,2,3-Trichlorobenzene	0.0198	0.00500	0.0232	0	85.2	55	140			
1,2,3-Trichloropropane	0.0246	0.00100	0.0232	0	106	75	125			
1,2,4-Trichlorobenzene	0.0201	0.00500	0.0232	0	86.5	65	135			
1,2,4-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	75	130			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: 1208290-03AMS	Batch ID: 53626	TestNo: SW8260C	Units: mg/L							
SampType: MS	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 2:02:00 PM								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.0240	0.0100	0.0232	0	104	50	130			
1,2-Dibromoethane	0.0243	0.00100	0.0232	0	105	80	120			
1,2-Dichlorobenzene	0.0236	0.00100	0.0232	0	102	70	120			
1,2-Dichloroethane	0.0239	0.00100	0.0232	0	103	70	130			
1,2-Dichloropropane	0.0231	0.00100	0.0232	0	99.4	75	125			
1,3,5-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	75	130			
1,3-Dichlorobenzene	0.0234	0.00100	0.0232	0	101	75	125			
1,3-Dichloropropane	0.0240	0.00100	0.0232	0	103	75	125			
1,4-Dichloro-2-butene	0.0254	0.00200	0.0232	0	110	50	150			
1,4-Dichlorobenzene	0.0235	0.00100	0.0232	0	101	75	125			
2,2-Dichloropropane	0.0230	0.00100	0.0232	0	99.3	70	135			
2-Butanone	0.0267	0.0150	0.0232	0	115	30	150			
2-Chloroethylvinylether	<0.00500	0.0150	0.0232	0	0	50	150			S
2-Chlorotoluene	0.0239	0.00100	0.0232	0	103	75	125			
2-Hexanone	0.0288	0.0150	0.0232	0	124	55	130			
4-Chlorotoluene	0.0239	0.00100	0.0232	0	103	75	130			
4-Methyl-2-pentanone	0.0282	0.0150	0.0232	0	122	60	135			
Acetone	0.0333	0.0150	0.0232	0.00705	113	40	140			
Acrylonitrile	0.0492	0.00300	0.0464	0	106	50	150			
Benzene	0.0232	0.00100	0.0232	0	100	80	120			
Bromobenzene	0.0235	0.00100	0.0232	0	101	75	125			
Bromochloromethane	0.0241	0.00100	0.0232	0	104	65	130			
Bromodichloromethane	0.0235	0.00100	0.0232	0	101	75	120			
Bromoform	0.0236	0.00100	0.0232	0	102	70	130			
Bromomethane	0.0193	0.00100	0.0232	0	83.1	30	145			
Carbon disulfide	0.0221	0.0150	0.0232	0	95.3	35	160			
Carbon tetrachloride	0.0232	0.00100	0.0232	0	99.8	65	140			
Chlorobenzene	0.0235	0.00100	0.0232	0	101	80	120			
Chloroethane	0.0211	0.00100	0.0232	0	90.8	60	135			
Chloroform	0.0238	0.00100	0.0232	0.000490	101	65	135			
Chloromethane	0.0208	0.00100	0.0232	0	89.6	40	125			
cis-1,2-Dichloroethene	0.0231	0.00100	0.0232	0	99.5	70	125			
cis-1,3-Dichloropropene	0.0226	0.00100	0.0232	0	97.4	70	130			
Dibromochloromethane	0.0241	0.00100	0.0232	0	104	60	135			
Dibromomethane	0.0239	0.00100	0.0232	0	103	75	125			
Dichlorodifluoromethane	0.0196	0.00100	0.0232	0	84.6	30	155			
Ethylbenzene	0.0234	0.00100	0.0232	0	101	75	125			
Iodomethane	0.0213	0.0150	0.0232	0	91.8	50	150			
Isopropylbenzene	0.0246	0.00100	0.0232	0	106	75	125			
m,p-Xylene	0.0475	0.00200	0.0464	0	102	75	130			
Methyl tert-butyl ether	0.0233	0.00100	0.0232	0	100	65	125			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: 1208290-03AMS	Batch ID: 53626	TestNo: SW8260C		Units:	mg/L					
SampType: MS	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 2:02:00 PM			Prep Date:	8/31/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methylene chloride	0.0216	0.00250	0.0232	0	93.3	55	140			
n-Butylbenzene	0.0240	0.00100	0.0232	0	103	70	135			
n-Propylbenzene	0.0241	0.00100	0.0232	0	104	70	130			
o-Xylene	0.0239	0.00100	0.0232	0	103	80	120			
p-Isopropyltoluene	0.0236	0.00100	0.0232	0	102	75	130			
sec-Butylbenzene	0.0240	0.00100	0.0232	0	104	70	125			
Styrene	0.0231	0.00100	0.0232	0	99.7	65	135			
tert-Butylbenzene	0.0238	0.00100	0.0232	0	102	70	130			
Tetrachloroethene	0.0229	0.00200	0.0232	0	98.8	45	150			
Toluene	0.0228	0.00200	0.0232	0	98.3	75	120			
trans-1,2-Dichloroethene	0.0224	0.00100	0.0232	0	96.6	60	140			
trans-1,3-Dichloropropene	0.0230	0.00100	0.0232	0	99.4	55	140			
Trichloroethene	0.0652	0.00200	0.0232	0.0418	101	70	125			
Trichlorofluoromethane	0.0233	0.00100	0.0232	0	101	60	145			
Vinyl chloride	0.0221	0.00100	0.0232	0	95.1	50	145			
Surr: 1,2-Dichloroethane-d4	210		200.0		105	70	120			
Surr: 4-Bromofluorobenzene	203		200.0		101	75	120			
Surr: Dibromofluoromethane	202		200.0		101	85	115			
Surr: Toluene-d8	201		200.0		101	85	120			

Sample ID: 1208290-03AMSD	Batch ID: 53626	TestNo: SW8260C		Units:	mg/L					
SampType: MSD	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 2:27:00 PM			Prep Date:	8/31/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0197	0.00100	0.0232	0	84.8	80	130	16.8	30	
1,1,1-Trichloroethane	0.0196	0.00100	0.0232	0	84.3	65	130	17.7	30	
1,1,2,2-Tetrachloroethane	0.0218	0.00100	0.0232	0	94.0	65	130	15.4	30	
1,1,2-Trichloroethane	0.0200	0.00100	0.0232	0	86.2	75	125	15.4	30	
1,1-Dichloroethane	0.0194	0.00100	0.0232	0	83.5	70	135	17.4	30	
1,1-Dichloroethene	0.0202	0.00100	0.0232	0.00138	81.2	70	130	14.3	30	
1,1-Dichloropropene	0.0193	0.00100	0.0232	0	83.0	75	130	16.7	30	
1,2,3-Trichlorobenzene	0.0184	0.00500	0.0232	0	79.5	55	140	6.91	30	
1,2,3-Trichloropropane	0.0209	0.00100	0.0232	0	90.2	75	125	16.0	30	
1,2,4-Trichlorobenzene	0.0177	0.00500	0.0232	0	76.3	65	135	12.5	30	
1,2,4-Trimethylbenzene	0.0204	0.00500	0.0232	0	87.8	75	130	17.2	30	
1,2-Dibromo-3-chloropropane	0.0215	0.0100	0.0232	0	92.8	50	130	11.0	30	
1,2-Dibromoethane	0.0205	0.00100	0.0232	0	88.4	80	120	16.9	30	
1,2-Dichlorobenzene	0.0199	0.00100	0.0232	0	85.9	70	120	16.7	30	
1,2-Dichloroethane	0.0203	0.00100	0.0232	0	87.4	70	130	16.4	30	
1,2-Dichloropropane	0.0197	0.00100	0.0232	0	84.8	75	125	15.8	30	
1,3,5-Trimethylbenzene	0.0205	0.00500	0.0232	0	88.5	75	130	16.2	30	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: 1208290-03AMSD	Batch ID: 53626	TestNo: SW8260C		Units:	mg/L					
SampType: MSD	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 2:27:00 PM			Prep Date:	8/31/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	0.0200	0.00100	0.0232	0	86.1	75	125	16.0	30	
1,3-Dichloropropane	0.0203	0.00100	0.0232	0	87.5	75	125	16.8	30	
1,4-Dichloro-2-butene	0.0214	0.00200	0.0232	0	92.2	50	150	17.3	30	
1,4-Dichlorobenzene	0.0201	0.00100	0.0232	0	86.4	75	125	15.9	30	
2,2-Dichloropropane	0.0192	0.00100	0.0232	0	82.6	70	135	18.4	30	
2-Butanone	0.0232	0.0150	0.0232	0	99.8	30	150	14.3	30	
2-Chloroethylvinylether	<0.00500	0.0150	0.0232	0	0	50	150	0	30	S
2-Chlorotoluene	0.0202	0.00100	0.0232	0	86.9	75	125	16.9	30	
2-Hexanone	0.0262	0.0150	0.0232	0	113	55	130	9.52	30	
4-Chlorotoluene	0.0204	0.00100	0.0232	0	87.9	75	130	15.9	30	
4-Methyl-2-pentanone	0.0261	0.0150	0.0232	0	112	60	135	7.89	30	
Acetone	0.0281	0.0150	0.0232	0.00705	90.9	40	140	16.8	30	
Acrylonitrile	0.0436	0.00300	0.0464	0	93.9	50	150	12.0	30	
Benzene	0.0195	0.00100	0.0232	0	83.9	80	120	17.6	30	
Bromobenzene	0.0197	0.00100	0.0232	0	85.0	75	125	17.4	30	
Bromochloromethane	0.0197	0.00100	0.0232	0	84.9	65	130	20.3	30	
Bromodichloromethane	0.0197	0.00100	0.0232	0	84.9	75	120	17.7	30	
Bromoform	0.0198	0.00100	0.0232	0	85.4	70	130	17.4	30	
Bromomethane	0.0166	0.00100	0.0232	0	71.4	30	145	15.2	30	
Carbon disulfide	0.0180	0.0150	0.0232	0	77.8	35	160	20.3	30	
Carbon tetrachloride	0.0192	0.00100	0.0232	0	82.6	65	140	18.9	30	
Chlorobenzene	0.0199	0.00100	0.0232	0	85.6	80	120	16.7	30	
Chloroethane	0.0200	0.00100	0.0232	0	86.3	60	135	5.06	30	
Chloroform	0.0202	0.00100	0.0232	0.000490	84.8	65	135	16.7	30	
Chloromethane	0.0179	0.00100	0.0232	0	77.1	40	125	14.9	30	
cis-1,2-Dichloroethene	0.0203	0.00100	0.0232	0	87.3	70	125	13.0	30	
cis-1,3-Dichloropropene	0.0187	0.00100	0.0232	0	80.5	70	130	19.0	30	
Dibromochloromethane	0.0201	0.00100	0.0232	0	86.6	60	135	18.0	30	
Dibromomethane	0.0200	0.00100	0.0232	0	86.4	75	125	17.5	30	
Dichlorodifluoromethane	0.0166	0.00100	0.0232	0	71.5	30	155	16.8	30	
Ethylbenzene	0.0197	0.00100	0.0232	0	84.9	75	125	17.2	30	
Iodomethane	0.0179	0.0150	0.0232	0	77.2	50	150	17.3	30	
Isopropylbenzene	0.0205	0.00100	0.0232	0	88.4	75	125	18.3	30	
m,p-Xylene	0.0391	0.00200	0.0464	0	84.2	75	130	19.5	30	
Methyl tert-butyl ether	0.0198	0.00100	0.0232	0	85.5	65	125	16.0	30	
Methylene chloride	0.0192	0.00250	0.0232	0	82.5	55	140	12.2	30	
n-Butylbenzene	0.0204	0.00100	0.0232	0	88.1	70	135	15.9	30	
n-Propylbenzene	0.0204	0.00100	0.0232	0	88.0	70	130	16.5	30	
o-Xylene	0.0204	0.00100	0.0232	0	87.9	80	120	16.0	30	
p-Isopropyltoluene	0.0201	0.00100	0.0232	0	86.4	75	130	16.3	30	
sec-Butylbenzene	0.0203	0.00100	0.0232	0	87.3	70	125	17.0	30	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: 1208290-03AMSD	Batch ID: 53626	TestNo:	SW8260C	Units:	mg/L					
SampType: MSD	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 2:27:00 PM		Prep Date:	8/31/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Styrene	0.0194	0.00100	0.0232	0	83.4	65	135	17.8	30	
tert-Butylbenzene	0.0201	0.00100	0.0232	0	86.7	70	130	16.6	30	
Tetrachloroethene	0.0194	0.00200	0.0232	0	83.6	45	150	16.6	30	
Toluene	0.0194	0.00200	0.0232	0	83.5	75	120	16.3	30	
trans-1,2-Dichloroethene	0.0191	0.00100	0.0232	0	82.4	60	140	15.9	30	
trans-1,3-Dichloropropene	0.0194	0.00100	0.0232	0	83.7	55	140	17.1	30	
Trichloroethene	0.0605	0.00200	0.0232	0.0418	80.4	70	125	7.52	30	
Trichlorofluoromethane	0.0199	0.00100	0.0232	0	85.9	60	145	15.7	30	
Vinyl chloride	0.0189	0.00100	0.0232	0	81.5	50	145	15.5	30	
Surr: 1,2-Dichloroethane-d4	204		200.0		102	70	120	0	0	
Surr: 4-Bromofluorobenzene	202		200.0		101	75	120	0	0	
Surr: Dibromofluoromethane	200		200.0		99.8	85	115	0	0	
Surr: Toluene-d8	203		200.0		101	85	120	0	0	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: ICV-120831	Batch ID: R62339	TestNo: SW8260C	Units: mg/L							
SampType: ICV	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 9:36:00 AM								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0468	0.00100	0.0464	0	101	80	120			
1,1,1-Trichloroethane	0.0458	0.00100	0.0464	0	98.6	80	120			
1,1,2,2-Tetrachloroethane	0.0482	0.00100	0.0464	0	104	80	120			
1,1,2-Trichloroethane	0.0456	0.00100	0.0464	0	98.3	80	120			
1,1-Dichloroethane	0.0446	0.00100	0.0464	0	96.1	80	120			
1,1-Dichloroethene	0.0430	0.00100	0.0464	0	92.6	80	120			
1,1-Dichloropropene	0.0445	0.00100	0.0464	0	95.8	80	120			
1,2,3-Trichlorobenzene	0.0451	0.00500	0.0464	0	97.2	80	120			
1,2,3-Trichloropropane	0.0464	0.00100	0.0464	0	100	80	120			
1,2,4-Trichlorobenzene	0.0454	0.00500	0.0464	0	97.7	80	120			
1,2,4-Trimethylbenzene	0.0478	0.00500	0.0464	0	103	80	120			
1,2-Dibromo-3-chloropropane	0.0477	0.0100	0.0464	0	103	80	120			
1,2-Dibromoethane	0.0466	0.00100	0.0464	0	100	80	120			
1,2-Dichlorobenzene	0.0464	0.00100	0.0464	0	100	80	120			
1,2-Dichloroethane	0.0452	0.00100	0.0464	0	97.5	80	120			
1,2-Dichloropropane	0.0455	0.00100	0.0464	0	98.1	80	120			
1,3,5-Trimethylbenzene	0.0474	0.00500	0.0464	0	102	80	120			
1,3-Dichlorobenzene	0.0462	0.00100	0.0464	0	99.6	80	120			
1,3-Dichloropropane	0.0459	0.00100	0.0464	0	98.8	80	120			
1,4-Dichloro-2-butene	0.0494	0.00200	0.0464	0	106	80	120			
1,4-Dichlorobenzene	0.0458	0.00100	0.0464	0	98.7	80	120			
2,2-Dichloropropane	0.0493	0.00100	0.0464	0	106	80	120			
2-Butanone	0.0482	0.0150	0.0464	0	104	80	120			
2-Chloroethylvinylether	0.0402	0.0150	0.0464	0	86.7	80	120			
2-Chlorotoluene	0.0462	0.00100	0.0464	0	99.6	80	120			
2-Hexanone	0.0491	0.0150	0.0464	0	106	80	120			
4-Chlorotoluene	0.0466	0.00100	0.0464	0	100	80	120			
4-Methyl-2-pentanone	0.0490	0.0150	0.0464	0	106	80	120			
Acetone	0.0532	0.0150	0.0464	0	115	80	120			
Acrylonitrile	0.0946	0.00300	0.0928	0	102	60	140			
Benzene	0.0444	0.00100	0.0464	0	95.7	80	120			
Bromobenzene	0.0460	0.00100	0.0464	0	99.1	80	120			
Bromochloromethane	0.0473	0.00100	0.0464	0	102	80	120			
Bromodichloromethane	0.0458	0.00100	0.0464	0	98.7	80	120			
Bromoform	0.0483	0.00100	0.0464	0	104	80	120			
Bromomethane	0.0379	0.00100	0.0464	0	81.7	80	120			
Carbon disulfide	0.0458	0.0150	0.0464	0	98.8	80	120			
Carbon tetrachloride	0.0454	0.00100	0.0464	0	97.9	80	120			
Chlorobenzene	0.0454	0.00100	0.0464	0	97.8	80	120			
Chloroethane	0.0426	0.00100	0.0464	0	91.9	80	120			
Chloroform	0.0442	0.00100	0.0464	0	95.3	80	120			

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS7\_120831B

Sample ID: ICV-120831	Batch ID: R62339	TestNo: SW8260C	Units: mg/L							
SampType: ICV	Run ID: GCMS7_120831B	Analysis Date: 8/31/2012 9:36:00 AM								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloromethane	0.0393	0.00100	0.0464	0	84.8	80	120			
cis-1,2-Dichloroethene	0.0437	0.00100	0.0464	0	94.2	80	120			
cis-1,3-Dichloropropene	0.0464	0.00100	0.0464	0	99.9	80	120			
Dibromochloromethane	0.0465	0.00100	0.0464	0	100	80	120			
Dibromomethane	0.0461	0.00100	0.0464	0	99.3	80	120			
Dichlorodifluoromethane	0.0382	0.00100	0.0464	0	82.4	80	120			
Ethylbenzene	0.0455	0.00100	0.0464	0	98.0	80	120			
Iodomethane	0.0399	0.0150	0.0464	0	86.0	80	120			
Isopropylbenzene	0.0472	0.00100	0.0464	0	102	80	120			
m,p-Xylene	0.0923	0.00200	0.0928	0	99.4	80	120			
Methyl tert-butyl ether	0.0455	0.00100	0.0464	0	98.0	80	120			
Methylene chloride	0.0457	0.00250	0.0464	0	98.5	80	120			
n-Butylbenzene	0.0490	0.00100	0.0464	0	106	80	120			
n-Propylbenzene	0.0466	0.00100	0.0464	0	100	80	120			
o-Xylene	0.0470	0.00100	0.0464	0	101	80	120			
p-Isopropyltoluene	0.0477	0.00100	0.0464	0	103	80	120			
sec-Butylbenzene	0.0470	0.00100	0.0464	0	101	80	120			
Styrene	0.0463	0.00100	0.0464	0	99.7	80	120			
tert-Butylbenzene	0.0469	0.00100	0.0464	0	101	80	120			
Tetrachloroethene	0.0453	0.00200	0.0464	0	97.7	80	120			
Toluene	0.0446	0.00200	0.0464	0	96.2	80	120			
trans-1,2-Dichloroethene	0.0439	0.00100	0.0464	0	94.5	80	120			
trans-1,3-Dichloropropene	0.0469	0.00100	0.0464	0	101	80	120			
Trichloroethene	0.0435	0.00200	0.0464	0	93.8	80	120			
Trichlorofluoromethane	0.0444	0.00100	0.0464	0	95.6	80	120			
Vinyl chloride	0.0421	0.00100	0.0464	0	90.7	80	120			
Surr: 1,2-Dichloroethane-d4	205		200.0		103	70	120			
Surr: 4-Bromofluorobenzene	200		200.0		99.9	75	120			
Surr: Dibromofluoromethane	201		200.0		101	85	115			
Surr: Toluene-d8	200		200.0		100	85	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TITRATOR\_120830A

The QC data in batch 53606 applies to the following samples: 1208269-01D, 1208269-03D, 1208269-04D, 1208269-05D

Sample ID: 1208269-01D DUP	Batch ID: 53606	TestNo: M4500-H+ B	Units: pH Units							
SampType: DUP	Run ID: TITRATOR_120830A	Analysis Date: 8/30/2012 12:00:00 PM	Prep Date: 8/30/2012							
<hr/>										
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 7.54 0 0 7.550 0.133 5

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TITRATOR\_120830A

Sample ID: ICV-120830	Batch ID: R62296	TestNo: M4500-H+ B	Units: pH Units							
SampType: ICV	Run ID: TITRATOR_120830A	Analysis Date: 8/30/2012 11:57:00 AM	Prep Date: 8/30/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.99	0	10.00	0	99.9	99	101			
Sample ID: CCV1-120830	Batch ID: R62296	TestNo: M4500-H+ B	Units: pH Units							
SampType: CCV	Run ID: TITRATOR_120830A	Analysis Date: 8/30/2012 12:11:00 PM	Prep Date: 8/30/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.02	0	7.000	0	100	97.1	102.9			
Sample ID: CCV2-120830	Batch ID: R62296	TestNo: M4500-H+ B	Units: pH Units							
SampType: CCV	Run ID: TITRATOR_120830A	Analysis Date: 8/30/2012 12:15:00 PM	Prep Date: 8/30/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.03	0	7.000	0	100	97.1	102.9			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TOC\_120907A

The QC data in batch 53732 applies to the following samples: 1208269-01B, 1208269-03B, 1208269-04B, 1208269-05B

Sample ID: LCS-53732	Batch ID: 53732	TestNo: M5310C	Units: mg/L							
SampType: LCS	Run ID: TOC_120907A	Analysis Date: 9/7/2012 10:17:00 AM	Prep Date: 9/7/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	8.54	1.00	10.00	0	85.4	80	120			
Sample ID: MB-53732	Batch ID: 53732	TestNo: M5310C	Units: mg/L							
SampType: MBLK	Run ID: TOC_120907A	Analysis Date: 9/7/2012 10:36:00 AM	Prep Date: 9/7/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	<0.300	1.00								
Sample ID: 1208269-01B MS	Batch ID: 53732	TestNo: M5310C	Units: mg/L							
SampType: MS	Run ID: TOC_120907A	Analysis Date: 9/7/2012 1:01:00 PM	Prep Date: 9/7/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	9.68	1.00	10.00	0.7237	89.5	80	120			
Sample ID: 1208269-01B MSD	Batch ID: 53732	TestNo: M5310C	Units: mg/L							
SampType: MSD	Run ID: TOC_120907A	Analysis Date: 9/7/2012 1:22:00 PM	Prep Date: 9/7/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	9.82	1.00	10.00	0.7237	91.0	80	120	1.46	15	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TOC\_120907A

Sample ID: ICV-120907	Batch ID: R62432	TestNo:	M5310C	Units:	mg/L					
SampType: ICV	Run ID: TOC_120907A	Analysis Date: 9/7/2012 9:56:00 AM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	14.1	1.00	15.00	0	94.1	90	110			
Sample ID: CCV-120907	Batch ID: R62432	TestNo:	M5310C	Units:	mg/L					
SampType: CCV	Run ID: TOC_120907A	Analysis Date: 9/7/2012 1:43:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	8.80	1.00	10.00	0	88.0	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** UV/VIS\_2\_120830A

The QC data in batch 53602 applies to the following samples: 1208269-01D, 1208269-03D, 1208269-04D, 1208269-05D

Sample ID: <b>MB-53602</b>	Batch ID: <b>53602</b>	TestNo: <b>M3500-Cr D</b>	Units: <b>mg/L</b>							
SampType: <b>MLBK</b>	Run ID: <b>UV/VIS_2_120830A</b>	Analysis Date: <b>8/30/2012 11:37:00 AM</b>	Prep Date: <b>8/30/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexavalent Chromium	<0.00800	0.0100								
Sample ID: <b>LCS-53602</b>	Batch ID: <b>53602</b>	TestNo: <b>M3500-Cr D</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>UV/VIS_2_120830A</b>	Analysis Date: <b>8/30/2012 11:37:00 AM</b>	Prep Date: <b>8/30/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.0971	0.0100	0.100	0	97.1	85	115			
Sample ID: <b>LCSD-53602</b>	Batch ID: <b>53602</b>	TestNo: <b>M3500-Cr D</b>	Units: <b>mg/L</b>							
SampType: <b>LCSD</b>	Run ID: <b>UV/VIS_2_120830A</b>	Analysis Date: <b>8/30/2012 11:37:00 AM</b>	Prep Date: <b>8/30/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.100	0.0100	0.100	0	100	85	115	3.16	15	
Sample ID: <b>1208269-01D MS</b>	Batch ID: <b>53602</b>	TestNo: <b>M3500-Cr D</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>UV/VIS_2_120830A</b>	Analysis Date: <b>8/30/2012 11:37:00 AM</b>	Prep Date: <b>8/30/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.192	0.0100	0.100	0.0915	101	85	115			
Sample ID: <b>1208269-01D MSD</b>	Batch ID: <b>53602</b>	TestNo: <b>M3500-Cr D</b>	Units: <b>mg/L</b>							
SampType: <b>MSD</b>	Run ID: <b>UV/VIS_2_120830A</b>	Analysis Date: <b>8/30/2012 11:37:00 AM</b>	Prep Date: <b>8/30/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.188	0.0100	0.100	0.0915	96.5	85	115	2.35	15	

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208269  
**Project:** HELSTF Chromium Spill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** UV/VIS\_2\_120830A

Sample ID: ICV-120830	Batch ID: R62293	TestNo:	M3500-Cr D	Units:	mg/L					
SampType: ICV	Run ID: UV/VIS_2_120830A	Analysis Date: 8/30/2012 11:06:00 AM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.0940	0.0100	0.100	0	94.0	90	110			
Sample ID: CCV-120830	Batch ID: R62293	TestNo:	M3500-Cr D	Units:	mg/L					
SampType: CCV	Run ID: UV/VIS_2_120830A	Analysis Date: 8/30/2012 11:42:00 AM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.200	0.0100	0.200	0	99.8	90	110			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**Lab Order:** 1208269  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill

## Sequence Report

### Run ID: GC15\_120830A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120830	-----	M8015D	R62324	1	8/30/2012 9:38:20 AM		A
LCS-53574	-----	M8015D	53574	1	8/30/2012 10:05:51 AM	8/29/2012 12:45:37 PM	A
LCSD-53574	-----	M8015D	53574	1	8/30/2012 10:14:20 AM	8/29/2012 12:45:37 PM	A
MB-53574	-----	M8015D	53574	1	8/30/2012 10:31:18 AM	8/29/2012 12:45:37 PM	A
CCV3-120830	-----	M8015D	R62324	1	8/30/2012 2:53:58 PM		A
1208269-01E	HLSF-0143-HMW-011-0812	M8015D	53574	1	8/30/2012 3:10:54 PM	8/30/2012 11:33:00 AM	A
1208269-03E	HLSF-0143-HMW-043-0812	M8015D	53574	1	8/30/2012 3:19:22 PM	8/30/2012 11:33:00 AM	A
1208269-04E	HLSF-0143-HMW-143-0812	M8015D	53574	1	8/30/2012 3:29:32 PM	8/30/2012 11:33:00 AM	A
1208269-05E	HLSF-0143-HMW-041-0812	M8015D	53574	1	8/30/2012 3:38:01 PM	8/30/2012 11:33:00 AM	A
CCV4-120830	-----	M8015D	R62324	1	8/30/2012 4:45:49 PM		A

### Run ID: GCMS7\_120831B

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120831	-----	SW8260C	R62339	1	8/31/2012 9:36:00 AM		A
LCS-53626	-----	SW8260C	53626	1	8/31/2012 12:01:00 PM	8/31/2012 11:01:43 AM	A
MB-53626	-----	SW8260C	53626	1	8/31/2012 12:26:00 PM	8/31/2012 11:01:43 AM	A
1208290-03AMS	-----	SW8260C	53626	1	8/31/2012 2:02:00 PM	8/31/2012 11:01:43 AM	A
1208290-03AMSD	-----	SW8260C	53626	1	8/31/2012 2:27:00 PM	8/31/2012 11:01:43 AM	A
1208269-01A	HLSF-0143-HMW-011-0812	SW8260C	53626	1	8/31/2012 6:31:00 PM	8/31/2012 11:01:43 AM	A
1208269-02A	HLSF-0143-HMW-011-0812-TB	SW8260C	53626	1	8/31/2012 6:56:00 PM	8/31/2012 11:01:43 AM	T
1208269-03A	HLSF-0143-HMW-043-0812	SW8260C	53626	1	8/31/2012 7:20:00 PM	8/31/2012 11:01:43 AM	A
1208269-04A	HLSF-0143-HMW-143-0812	SW8260C	53626	1	8/31/2012 7:45:00 PM	8/31/2012 11:01:43 AM	A
1208269-05A	HLSF-0143-HMW-041-0812	SW8260C	53626	1	8/31/2012 8:09:00 PM	8/31/2012 11:01:43 AM	A

**Lab Order:** 1208269  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill

**Sequence Report****Run ID: ICP-MS3\_120905A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
BLANK STD 1	-----	SW6020	R62384	1	9/5/2012 10:48:00 AM		A
1/20 ppb STD.	-----	SW6020	R62384	1	9/5/2012 10:54:00 AM		A
10/200 ppb STD.	-----	SW6020	R62384	1	9/5/2012 11:00:00 AM		A
250/5000 ppb STD.	-----	SW6020	R62384	1	9/5/2012 11:05:00 AM		A
500/10000 ppb STD.	-----	SW6020	R62384	1	9/5/2012 11:11:00 AM		A
2000/25000 ppb ST	-----	SW6020	R62384	1	9/5/2012 11:16:00 AM		A
ICSA-120905	-----	SW6020	R62384	1	9/5/2012 11:33:00 AM		A
ICSA-B-120905	-----	SW6020	R62384	1	9/5/2012 11:39:00 AM		A
ICV1-120905	-----	SW6020	R62384	1	9/5/2012 11:50:00 AM		A
ICB1-120905	-----	SW6020	R62384	1	9/5/2012 11:55:00 AM		A
MB-53642	-----	SW6020	53642	1	9/5/2012 12:14:00 PM	9/4/2012 9:11:15 AM	A
LCS-53642	-----	SW6020	53642	1	9/5/2012 12:20:00 PM	9/4/2012 9:11:15 AM	A
LCSD-53642	-----	SW6020	53642	1	9/5/2012 12:26:00 PM	9/4/2012 9:11:15 AM	A
1208290-03C SD	-----	SW6020	53642	5	9/5/2012 12:43:00 PM	9/4/2012 9:11:15 AM	A
1208269-01C	HLSF-0143-HMW-011-0812	SW6020	53642	1	9/5/2012 1:11:00 PM	9/4/2012 9:11:15 AM	A
1208269-04C	HLSF-0143-HMW-143-0812	SW6020	53642	1	9/5/2012 1:22:00 PM	9/4/2012 9:11:15 AM	A
1208269-05C	HLSF-0143-HMW-041-0812	SW6020	53642	1	9/5/2012 1:27:00 PM	9/4/2012 9:11:15 AM	A
1208269-03C	HLSF-0143-HMW-043-0812	SW6020	53642	1	9/5/2012 1:33:00 PM	9/4/2012 9:11:15 AM	A
1208290-03C PDS	-----	SW6020	53642	1	9/5/2012 1:44:00 PM	9/4/2012 9:11:15 AM	A
1208290-03C MS	-----	SW6020	53642	1	9/5/2012 1:50:00 PM	9/4/2012 9:11:15 AM	A
1208290-03C MSD	-----	SW6020	53642	1	9/5/2012 1:55:00 PM	9/4/2012 9:11:15 AM	A
CCV1-120905	-----	SW6020	R62384	1	9/5/2012 2:48:00 PM		A
CCB1-120905	-----	SW6020	R62384	1	9/5/2012 3:22:00 PM		A

**Run ID: TITRATOR\_120830A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV2-120830	-----	M4500-H+ B	R62296	1	8/30/2012 11:54:00 AM	8/30/2012 11:54:00 AM	A
ICV1-120830	-----	M4500-H+ B	R62296	1	8/30/2012 11:55:00 AM	8/30/2012 11:55:00 AM	A
ICV-120830	-----	M4500-H+ B	R62296	1	8/30/2012 11:57:00 AM	8/30/2012 11:57:00 AM	A
1208269-01D	HLSF-0143-HMW-011-0812	M4500-H+ B	53606	1	8/30/2012 11:58:00 AM	8/30/2012 11:45:00 AM	A
1208269-01D DUP	HLSF-0143-HMW-011-0812PD9	M4500-H+ B	53606	1	8/30/2012 12:00:00 PM	8/30/2012 11:45:00 AM	A
1208269-03D	HLSF-0143-HMW-043-0812	M4500-H+ B	53606	1	8/30/2012 12:03:00 PM	8/30/2012 11:45:00 AM	A
1208269-04D	HLSF-0143-HMW-143-0812	M4500-H+ B	53606	1	8/30/2012 12:05:00 PM	8/30/2012 11:45:00 AM	A
1208269-05D	HLSF-0143-HMW-041-0812	M4500-H+ B	53606	1	8/30/2012 12:07:00 PM	8/30/2012 11:45:00 AM	A
CCV1-120830	-----	M4500-H+ B	R62296	1	8/30/2012 12:11:00 PM	8/30/2012 12:11:00 PM	A
CCV2-120830	-----	M4500-H+ B	R62296	1	8/30/2012 12:15:00 PM	8/30/2012 12:15:00 PM	A

**Lab Order:** 1208269  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Chromium Spill

## Sequence Report

### Run ID: TOC\_120907A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120907	-----	M5310C	R62432	1	9/7/2012 9:56:00 AM		A
LCS-53732	-----	M5310C	53732	1	9/7/2012 10:17:00 AM	9/7/2012 9:00:54 AM	A
MB-53732	-----	M5310C	53732	1	9/7/2012 10:36:00 AM	9/7/2012 9:00:54 AM	A
1208269-01B	HLSF-0143-HMW-011-0812	M5310C	53732	1	9/7/2012 11:40:00 AM	9/7/2012 9:00:54 AM	A
1208269-03B	HLSF-0143-HMW-043-0812	M5310C	53732	1	9/7/2012 12:00:00 PM	9/7/2012 9:00:54 AM	A
1208269-04B	HLSF-0143-HMW-143-0812	M5310C	53732	1	9/7/2012 12:20:00 PM	9/7/2012 9:00:54 AM	A
1208269-05B	HLSF-0143-HMW-041-0812	M5310C	53732	1	9/7/2012 12:41:00 PM	9/7/2012 9:00:54 AM	A
1208269-01B MS	HLSF-0143-HMW-011-0812MS	M5310C	53732	1	9/7/2012 1:01:00 PM	9/7/2012 9:00:54 AM	A
1208269-01B MSD	HLSF-0143-HMW-011-	M5310C	53732	1	9/7/2012 1:22:00 PM	9/7/2012 9:00:54 AM	A
CCV-120907	-----	M5310C	R62432	1	9/7/2012 1:43:00 PM		A

### Run ID: UV/VIS\_2\_120830A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120830	-----	M3500-Cr D	R62293	1	8/30/2012 11:06:00 AM		A
MB-53602	-----	M3500-Cr D	53602	1	8/30/2012 11:37:00 AM	8/30/2012 11:00:00 AM	A
LCS-53602	-----	M3500-Cr D	53602	1	8/30/2012 11:37:00 AM	8/30/2012 11:00:00 AM	A
LCSD-53602	-----	M3500-Cr D	53602	1	8/30/2012 11:37:00 AM	8/30/2012 11:00:00 AM	A
1208269-01D	HLSF-0143-HMW-011-0812	M3500-Cr D	53602	1	8/30/2012 11:37:00 AM	8/30/2012 11:00:00 AM	A
1208269-01D MS	HLSF-0143-HMW-011-0812MS	M3500-Cr D	53602	1	8/30/2012 11:37:00 AM	8/30/2012 11:00:00 AM	A
1208269-01D MSD	HLSF-0143-HMW-011-	M3500-Cr D	53602	1	8/30/2012 11:37:00 AM	8/30/2012 11:00:00 AM	A
1208269-03D	HLSF-0143-HMW-043-0812	M3500-Cr D	53602	1	8/30/2012 11:41:00 AM	8/30/2012 11:00:00 AM	A
1208269-04D	HLSF-0143-HMW-143-0812	M3500-Cr D	53602	1	8/30/2012 11:42:00 AM	8/30/2012 11:00:00 AM	A
1208269-05D	HLSF-0143-HMW-041-0812	M3500-Cr D	53602	1	8/30/2012 11:42:00 AM	8/30/2012 11:00:00 AM	A
CCV-120830	-----	M3500-Cr D	R62293	1	8/30/2012 11:42:00 AM		A